

Appl. No. 10/034,219
Amdt. dated April 1, 2005
Reply to final Office action of January 26, 2005

REMARKS/ARGUMENTS

Applicants have received the final Office Action dated January 26, 2005, in which the Examiner: (1) objected to claim 10; (2) rejected claims 1-5, 10-14 and 19-23 under 35 U.S.C. § 112, first and second paragraphs; and (3) rejected claims 1-5, 10-14, 19-24 and 26-27 as being anticipated by Merchant. In this Response, Applicants amend claims 1, 10, 19, and 24 and submit new claims 28-37. Based on the arguments and amendments contained herein, Applicants respectfully submit that all remaining pending claims are in condition for allowance.

I. CLAIM 10 OBJECTION

Applicants amend claim 10 to remove the extra instance of the word "that." Applicants caught the same issue with regard to claim 1 and have amended that claim as well.

II. THE § 112, FIRST AND SECOND PARAGRAPH CLAIM REJECTIONS

The Examiner issued § 112 rejections because allegedly claims 1, 10, and 19 recite a limitation that is not enabled by the specification (the § 112, first paragraph rejection) and that, according to the Examiner, there is insufficient antecedent basis in the specification (the § 112, second paragraph rejection). The bases of the first and second paragraph rejections relate to the same claim limitation which in claim 1 is "applying said poison value through the store set dependence to subsequent load/store order violation occurrences." The same or similar limitation is in independent claims 10 and 19 as well. The Examiner is requested to consult at least page 16, paragraph 58, of Applicants' disclosure for support for the limitation quoted above.

III. THE ART REJECTIONS

The independent claims have been amended to further clarify the definition of a "store set." For example, claim 1 explains that the "store set prevents a load from executing before a corresponding store." Claim 1 is also amended to explain that the poison value is applied through the store set dependence "to avoid executing and then re-playing a subsequent instruction subjected to a load/store order violation." Claim 10 requires that the store set identifier value

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"prevents the load from executing before the store." Claims 19 and 24 require that the "store set is usable to prevent a load from executing before a corresponding store that targets a common address."

In Merchant, loads and stores are permitted to execute out of order. Merchant acknowledges that "it is possible, for example, that the correct source data was not yet available at execution time, causing the instruction to execute improperly." Col. 6, lines 61-63. To solve this problem, Merchant's processor includes "replay" system 117 that "detects those instructions that were not executed properly when they were initially dispatched...and routes them back again to the execution unit..." Col. 6, line 65 through col. 7, line 1. See also col. 11.

Merchant does not disclose a "store set" as claimed. For example, Merchant does not disclose a "store set [that] prevents a load from executing before a corresponding store" (claim 1). Merchant has a much different approach as explained above, which involves permitting the problematic load to execute, but then causing the load to be re-executed once the problem condition has been resolved. Claim 1 requires the use of a store set which avoids having the problematic load from executing in the first place. The same or similar reasoning applies to all of the presently pending independent claims.

IV. THE NEW CLAIMS

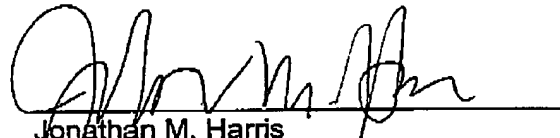
New claims 28-37 require a combination of features that are believed to be patentable over the art of record. For example, claim 28 requires detecting a load/store order violation and forming a store set based on the violation, wherein the store set prevents the load from executing before the store. The art of record does not teach or suggest such a store set. Claims 28-31 provide additional limitations regarding the formation of the store set. Claim 32 adds additional limitations regarding a poison table that is indexed by a store set identifier. Claims 33-37 are patentable for the same or similar reasons as claims 28-32.

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V. CONCLUSION

Applicants respectfully request reconsideration and allowance of the pending claims. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's Deposit Account No. 08-2025.

Respectfully submitted,



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